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SURVEY OF INDUSTRIES AND MECHANICAL OCCUPATIONS IN NEW ORLEANS BY THE DIVISION OF EDUCATIONAL RESEARCH

By

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THE NEED FOR EDUCATIONAL AND VOCATIONAL SURVEYS

THE recent study in New Orleans of industry in relation to education presents in purpose, scope and method some unique points of interest to-day when so many cities are spending unusual effort and thousands of dollars to make practical vocational surveys.

In the present conditions of public education where the actual life of the people and the formal preparation of the masses of pupils for life are divergent, the need of systematic study of human occupations and of existing schools, for the betterment of both the individual and also of industry and education, increases. The enormous elimination of pupils before completing eight grades, the maladjustment of age and grade in conventional schools, whether the maladjustment be due to lost time or slow progress, the specialization of industrial occupations, the predominance of females both as pupils and as teachers in our elementary schools, the failure of manual training as a preparation for gainful occupation, the modified attitude of federations of labor regarding trades schools, the increase of corporation schools, the demand for unit courses for workers in the evening schools, and the pernicious advocacy of classical-mathematical discipline for all young pupils—all these topics suggest evidences of urgent demand for modification of our public-school systems, not rashly, but after adequate study both of human occupations and also of the status of the school as preparation for life.

However great the need for knowledge obtained by adequate "surveys," much criticism and some wit have been directed to surveys and surveyors. Some investigators have been superficial, amateurs following a fad. Complaints are that some surveys have brought more good to the surveyor than to the surveyed, that criticisms of existing schools made by investigators from a distance have not been always constructive, sympathetic or even accurate. There are also rumors that groups of experts in survey work duly assembled in a city to do the work in a scientific, rapid and practical manner, have not always agreed in their councils, and that their product, both as to method of presentation and as to content of recommendations, was the product of debate, if not of compromise, rather than of clear-cut deductions. Finally, administrative officials, boards and the public do not invariably follow with logical action the recommendations of experts, real or alleged.

Doubts and criticisms such as the above were heard in New Orleans as in other cities. General facts about this city are: It has a population of about 375,000, of whom one fourth are colored. A fifth of the population is of foreign parentage. The city is not far from the mouth of the Mississippi River, and ranks as the second port of the country. It is in the midst of rich alluvial soil and the people are largely engaged in the manufacture of lumber, sugar refining, rice polishing, ship and car building, and publishing, in addition to the occupations of trade, commerce and the professions. A child-labor law for the city is

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well enforced and there are 65,000 children in public and parochial schools, besides the students in colleges and universities. It is a city of parks, boulevards, churches, hospitals and a strong play spirit is manifest, for example, in the annual carnival. Facts of local history, that concern the early Spanish and French occupations, a tenacious local pride, and the insular position—all tend to fortify existing customs and institutions.

The marked spirit of improvement within the local public-school system during the past five years, and the gift to the city by Mr. Isaac Delgado of approximately one million dollars for the establishment of a central trades school for the mechanical training of boys, made opportune a vocational survey in advance of the establishment of this school for mechanical trades. The questions to be answered locally were such as these: What is the number and present advantages and disadvantages, processes, health aspects and future of the local, mechanical occupations of boys and men? What provision in the schools is made for training toward such occupation? What does first-hand study disclose of prevailing types of industrial and trades schools in other cities? Agreed upon the occupations to be articulated with the proposed trades school, *i. e.*, agreed upon the course of study, what kind of teachers, rooms, shops, buildings and equipment are necessary to execute the program thus deduced? What are the criteria for the choice of a site suited for the program and buildings as planned? What conclusions may be reached regarding finance?

The task of making the study to find the answer to these questions was allotted by the Commission Council and the Board of School Directors of the City to the Division of Educational Research of the Public Schools, under the initiative of Mayor Behrman, Superintendent of Schools Joseph M. Gwinn, and with the cooperation of public-spirited citizens, the Association of Commerce, and the labor unions. The points of interest regarding the organization, scope, method and results of the survey we shall now outline under twelve topics.

1. ORGANIZATION OF THE NEW ORLEANS SURVEY

The work was a one-man undertaking with the help of two lady assistants, one for clerical work, and one for social investigations. Upon occasion other clerical assistance was occasionally obtained by the day. The time occupied was twenty months, one half of this time, however, being given to other activities of the Division of Educational Research.[1] The entire expense of the survey itself (not other activities of the division) was met by appropriations from the council aggregating $4,000, which does not include the cost of printing reports, the larger and final one of which, it is hoped, will soon be issued from the press.

2. FACTS ABOUT THE PUBLIC SCHOOLS IN RELATION TO VOCATION

Preliminary reports were published in June and September, 1914, which contained detailed analyses of each grade of every one of seventy-nine public schools, showing the following facts for the preceding year: Numbers and percentages of children *over-age* on account of lost time, *over-age* on account of slow progress, *at-or-below-age* but making slow progress, *at-or-below-age* with usual or rapid progress, *repeaters,* etc.; the *city average* for each of the above and *average deviation.*

It is readily seen that these (1) percentages showing *city averages* for each group or category, (2) percentages indicating *average variations* from the central tendency in each group, and finally (3) corresponding figures (separately for boys and for girls) for *each grade* of *each school*—altogether afford a nearly objective standard of measurement and comparison of the resultant effect of school and home and individual factors upon school progress under the present age-grade system.

Omitting here the percentages for the *79 different schools,* we have in Table I. these averages for the city as a whole with the average deviations in each case.

[1] See *Journal of Educational Psychology,* Vol. V., p. 9.

TABLE I

Group Analyses for all Elementary Public Schools of New Orleans, September, 1913

Status of Each Grade in Each School with City Averages and Average Deviation

Notes—City Averages—Number in each group divided by total city enrollment for grade.

Average of Grade Percentages—Sum of grade percentages divided by number of schools having the respective grades.

Average Deviation—This per cent. expresses the average variation (in actual experience for the year) of the grade-rank in the different schools from the general city average for a grade. It is computed by taking the average of the differences between the rank of each school grade and the total city average for that grade.

"At-Age" includes small percentages of children "Under-Age" [averages 3.6 per cent. white and .5 per cent. colored].

Slow progress may be due to: (1) factors in the *home* and other environment; (2) factors in the *school*, as course of study, teachers, buildings, playmates, etc.; (3) physical or mental factors in the *child*.

	Grade I						Grade II						Grade III						Grade IV					
	At Age Usual or Rapid Progress	At Age, Slow Progress	Over Age, Late Entrance or Lost Time	Over Age Slow Progress	Repeating	Enrollment	At Age, Usual or Rapid Progress	At Age, Slow Progress	Over Age, Late Entrance or Lost Time	Over Age, Slow Progress	Repeating	Enrollment	At Age, Usual or Rapid Progress	At Age, Slow Progress	Over Age, Late Entrance or Lost Time	Over Age, Slow Progress	Repeating	Enrollment	At Age, Usual or Rapid Progress	At Age, Slow Progress	Over Age, Late Entrance or Lost Time	Over Age, Slow Progress	Repeating	Enrollment
SCHOOLS FOR WHITE:																								
City averages.....B.	57	19	9	14	22	.....	43	19	10	28	17	.....	34	15	13	38	16	.....	26	15	11	47	17	.....
G.	67	16	8	10	17	.....	51	19	10	19	13	.....	43	17	10	31	12	.....	32	17	11	39	15	.....
Average of grade—percentages—																								
B.	58	19	9	14	20	.....	42	18	11	30	17	.....	35	14	11	40	17	.....	28	14	12	45	17	.....
G.	67	17	8	9	19	.....	54	18	10	18	13	.....	42	17	12	29	12	.....	31	19	15	35	17	.....
Average deviation.....B.	12	7	5	6	9	.....	12	7	6	13	8	.....	8	6	6	14	9	.....	10	5	7	14	9	.....
G.	13	8	4	4	9	.....	14	7	5	7	6	.....	13	7	6	11	7	.....	12	10	9	11	10	.....
Enrollment for city.....B.						2,905						2,327						2,240						2,207
G.						2,644						2,115						2,140						2,232
Total.....						5,549						4,442						4,380						4,439
SCHOOLS FOR COLORED:																								
City averages.....B.	36	7	31	27	21	.....	11	4	50	34	20	.....	7	6	33	53	22	.....	11	4	33	52	14	.....
G.	35	11	28	26	24	.....	16	6	41	36	22	.....	8	7	29	56	19	.....	10	5	36	48	13	.....
Average of grade—percentages—																								
B.	35	8	28	29	22	.....	12	6	45	38	19	.....	8	5	33	55	27	.....	10	5	32	52	16	.....
G.	37	14	24	25	25	.....	17	6	41	37	21	.....	8	6	34	52	17	.....	12	5	35	48	18	.....
Average deviation.....B.	9	5	12	15	8	.....	4	4	18	20	7	.....	4	2	15	18	10	.....	6	4	12	16	6	.....
G.	12	6	11	10	11	.....	6	3	17	18	7	.....	4	4	17	18	10	.....	7	3	13	16	9	.....
Enrollment for city.....B.						1,111						894						701						449
G.						1,262						923						845						601
Total.....						2,373						1,817						1,546						1,050

	Grade V						Grade VI						Grade VII						Grade VIII					
	At Age, Usual or Rapid Progress	At Age, Slow Progress	Over Age, Late Entrance or Lost Time	Over Age, Slow Progress	Repeating	Enrollment	At Age, Usual or Rapid Progress	At Age, Slow Progress	Over Age, Late Entrance or Lost Time	Over Age, Slow Progress	Repeating	Enrollment	At Age, Usual or Rapid Progress	At Age, Slow Progress	Over Age, Late Entrance or Lost Time	Over Age, Slow Progress	Repeating	Enrollment	At Age, Usual or Rapid Progress	At Age, Slow Progress	Over Age, Late Entrance or Lost Time	Over Age, Slow Progress	Repeating	Enrollment
SCHOOLS FOR WHITE:																								
City averages.....B.	27	15	12	45	12	.....	33	17	14	36	12	.....	43	14	11	31	2	.....	50	10	18	22	3	.....
G.	28	20	9	43	11	.....	37	13	18	33	9	.....	42	11	17	30	3	.....	45	10	21	24	2	.....
Average of grade—percentages—																								
B.	27	15	13	44	14	.....	35	14	18	34	7	.....	39	13	18	30	2	.....	50	9	18	24	4	.....
G.	29	16	13	41	11	.....	39	13	19	30	9	.....	43	12	16	30	4	.....	44	10	22	23	2	.....
Average deviation.....B.	10	7	9	12	8	.....	13	6	10	9	4	.....	11	7	9	11	2	.....	13	4	8	10	1	.....
G.	11	6	10	14	7	.....	12	6	10	11	6	.....	11	5	6	12	2	.....	11	6	9	9	1	.....
Enrollment for city.....B.						1,651						1,146						800						517
G.						1,938						1,594						1,168						925
Total.....						3,589						2,740						1,968						1,442
SCHOOLS FOR COLORED:																								
City averages.....B.	7	11	37	44	14	.....	15	2	48	34	11	.....	11	0	58	32	5	.....						.....
G.	11	4	41	45	8	.....	11	5	53	31	4	.....	15	2	53	30	8	.....						.....
Average of grade—percentages—																								
B.	7	12	36	45	23	.....	13	3	50	34	6	.....	14	0	33	54	3	.....						.....
G.	11	9	42	38	12	.....	11	3	45	39	6	.....	12	2	54	32	9	.....						.....
Average deviation.....B.	3	7	22	21	15	.....	6	3	25	15	4	.....	6	0	16	30	2	.....						.....
G.	4	7	24	20	6	.....	5	3	20	18	5	.....	4	2	24	26	4	.....						.....
Enrollment for city.....B.						212						132						19						.....
G.						343						177						66						.....
Total.....						555						309						85						.....

At this writing the whole task is nearly completed again for the past year (1914–15) and a comparison of results of these measurements with those of the preceding year indicates an encouraging improvement in conditions.

A study of *elimination* included visits by Miss Railey to the homes of all pupils who left any one of three typical schools. This work also has been recently enlarged. A special study was made of *thirteen-year-old boys,* the occupations of their fathers, teachers' impressions of boys' aptitudes, and the "stations-in-enrollment" index of efficiency was applied. For white boys and girls the results were 27 and 32 per cent., respectively. The *occupational history of 1,472 boys and men* in the night schools was ascertained and their stated ambitions or desired occupations were recorded with a view to better provisions for training and to ascertaining the blind-alley job.[2]

[2] See "Facts About the Public Schools in Relation to Vocation," by David S. Hill, Commission Council, New Orleans, 58 p., 1914; "Measurements in Elementary Education," by David S. Hill, Board of School Directors, New Orleans, 71 p., September, 1914.

3. EXPERIMENTAL STUDY OF DELINQUENT BOYS AND OF PREVENTIVE AND AMELIORATIVE MEASURES IN THE UNITED STATES

In the spring of 1914 there arose the question of the immediate assumption by the city of the care of a group of boys detained by order of the Juvenile Court. The Division of Educational Research, upon request of the authorities, made a study and a printed report thereon, consisting of 130 pages.[3] It included: (1) Psychological-medical-sociological and school studies for each of the 63 boys; (2) a visit to the institutions at St. Charles, Ill., Lyman, Mass., Westchester County, N. Y., Glen Mills, Pa., etc., and illustrated descriptions of these; (3) a proposed plan for ten years' development intended for the city, looking toward the articulation into efficient cooperation of existing and proposed child-welfare institutions, as public schools, parochial schools, orphanages, juvenile court, placing-out system, detention home, parental schools.

4. STUDY OF AMERICAN TRADES SCHOOLS

Three journeys of inspection were made to study organization, conduct, courses of study, buildings and equipment of trades schools, as at Wentworth, Boston; Worcester, Mass.; Williamson, Pa.; Ranken, St. Louis; Lane, Chicago; Milwaukee, Wis.; Portland, Oregon; Rochester, N. Y.

5. SURVEY OF MANUFACTURING INDUSTRIES AND MECHANICAL OCCUPATIONS OF MEN AND BOYS IN NEW ORLEANS

Personal Visits to Typical Establishments.—The most difficult and prolonged effort of the survey was the study of local establishments by personal visitation, questioning and correspondence.

Information Desired.—The aim was to produce a just account of all of the occupations of men and boys designated within each important group of local manufacturing industries. Hundreds of occupational designations were noted, some of them denoting (1) unskilled labor, others (2) semi-skilled, and still others (3) skilled. In studying an establishment effort was directed toward obtaining these facts about each occupation: Designations, processes, skill and knowledge required, steps of possible promotion, wages, hours of labor, hazards, etc. In one cypress saw and planing mill, for example, some seventy different occupations were found. Each of these was studied and reported upon from the standpoint of education both for the prospective worker and for the worker already employed.

A series of blank forms was used, but it was found early that questionnaire returns in survey work are meager and unreliable. In the case of many establishments the data were obtained only after questionnaire requests, repeated visits, and interchange of letters. The method of personal conference and inspection was also proved valuable in cultivating a mutual understanding between employer, schoolman and employed, three important elements of a community usually far apart in daily pursuits.

The limited space of this review permits printing of only a bare outline of the industries and contained occupations. In each industrial group only representative establishments, but also the majority, in each local industrial group were visited. A unique feature of the final report is the reproduction of the actual notes concerning each of approximately one hundred factories visited, in addition to pay rolls, descriptions of equipment noted, etc. All names, of course, were omitted in these accounts of plants, factories and shops.

Building Trades.—In dealing with building trades dependence was placed upon: (1) questionnaires; (2) conferences within the body of local unions; (3) conversations with workers and employers.

Summary of Occupations.—A boy trained in a local trades school may not find employment at home. Therefore as a basis of vocational direction a preliminary section contained a summary of all mechanical occupations of boys and men in the United States, according to the census. The immediately following sections of the report on the survey contain the

[3] "An Experimental Study of Delinquent and Destitute Boys in New Orleans and Notes Concerning Preventive and Ameliorative Measures in the United States," by David S. Hill, Commission Council, New Orleans, 130 p. (illust.), June, 1914.

analyses of local industries and occupations which we classified into seven groups.

A bare outline of these particular sections indicates the scope of this important feature of the survey:

Section II. Metal-working Industries and the Related Occupations.—In the United States. In New Orleans. Foundry, Machine Shop Products. Ship-building Industries and Related Occupations. Railroad Shop Repair and Construction Industries and Occupations. Sheet Metal Products. Cans and Stamped Ware. Automobile Industry and the Related Occupations. Metal Beds and Springs. Railings, Fences, Artistic Iron Work. Metal Grinding and Filing. Typewriters. Metal Plating. Stencil and Stamp Manufacturing. Steel Safes. Mechanical Dentistry. Watch and Clock Repairing. Summary of Employers' Replies. Responses from Local Unions in Metal-working Industries. Summary and Educational Recommendations for Occupations Observed in Local Metal-working Industries.

Section III. Power, Light and Heating Plants and Related Occupations.—Steam and Operating Engineers. Stationary Firemen. Other Occupations in Power and Light Systems. Summary and Educational Recommendations for Occupations in Local Power, Light and Heating Plants.

Section IV. Electric Manufacturing and Construction, Telephone, Telegraphs and the Related Occupations.—In the United States. In New Orleans. Telegraph. Telephone. Electrical Workers. Responses from Local Union. Summary of Employers' Replies.

Section V. Lumber and Its Remanufacture.—The Lumber Industries of the United States as a whole. Seasons, Hours, Wages in Branches of the Industry. Healthfulness and Hazards. The Industry in Louisiana. Importance of Lumber and Wood-working Factory Industries in New Orleans. Saw and Planing Mills. The Number and Variety of Actual Occupations within a Local Saw and Planing Mill. Sash, Doors and Blinds. Wood-box Factories. Wood Furniture, Cabinet Work, Refrigerators. Cooperage. Coffins. Cisterns. Brooms and Brushes. Model and Pattern Making. Summarized Responses of Employees in the Lumber and Wood-working Industry. Memoranda from the Mill-Men's Local Union. Summary and Educational Recommendations for Occupations in the Local Lumber and Wood-working Industries.

Section VI. Local Building Trades.—Variety and Numbers in United States. Wages throughout the Country. Attitude of the American Federation of Labor Concerning Industrial Education. Trades Studied in New Orleans. Method. Carpenters. Painters, Decorators, Paperhangers. Bricklayers. Plumbers, Pipe-fitters, Steam-fitters. Plasterers. Slaters.

Section VII. Printing and Publishing Industry and the Related Occupations.—Branches of the Industry in the United States. Morbidity and the Accident Hazard of Printers. Importance in the United States. Relative Importance in New Orleans. Study of Local Plants and Workers. Book and Job Printing. Book-binding and Blank-book Making. Hand Engraving on Steel and Copper Plates. Photo-engraving and Electrotyping. Lithographing. Newspapers and Periodicals. Summary of Responses from Labor Unions. Summary of Responses from Employers. Educational Recommendations for Printers' Trades and Industries.

Section VIII. Miscellaneous Industries and Occupations.—Tobacco Manufacturers. Sugar-refining and Related Occupations. Molasses and Syrup Mixing and the Related Occupations. Confectionery and Candy-making. Macaroni and Spaghetti. Marble and Stone Works. Umbrellas and Canes. Optical Goods. Cotton Mills. Musical Instruments. Laundries and Related Occupations. Shoe Manufacture and Related Occupations. Horseshoeing. Awnings, Sails, Tarpaulins, Tents. Riggers. Divers. Barbers. Stewards, Chefs, Cooks, Waiters, etc. Mechanical Occupations under City Government.

6. SPECIAL PROBLEMS CONCERNING LOCAL EDUCATION AND THE ISAAC DELGADO CENTRAL TRADES SCHOOL FOR BOYS

Five sections of the report (Sections IX., X., XI., XII., XIII.) present facts and considerations that developed in the course of the work indicated in the preceding pages. Here are the outlines of these five sections:

Section IX. Cooperation with United States Naval Authorities.—Nautical School for Boys Who May Go to Sea. Correspondence with Secretary of Navy. Navy-Yard Positions. Correspondence.

Section X. Sea-food Culture and Industry.—Gulf Fisheries. Conservation. Suggested Course. Local Cooperation of Merchants. Comments by Experts. Recommendations.

Section XI. Scientific Agriculture, Dairying and Horticulture for City Boys.—Opportunities in

Louisiana and New Orleans. The Floral Industry in New Orleans. A School of Scientific Agriculture and Dairying—Williamson. Summary and Educational Recommendations.

Section XII. Responses from Labor Unions.

Section XIII. The Problem of a Negro Department.—Two questions. Conditions of Negro Boys in New Orleans. Occupations Which Negro School-boys Prefer. Summary and Educational Recommendations.

7. VOCATIONAL PREFERENCES AND A STAY-IN-SCHOOL CAMPAIGN

During the survey it was decided to try the effect of moral suasion to lessen the wholesale dropping out of school by children reaching the limit of compulsory attendance (fourteen years). Answers were obtained from about seven thousand parents of pupils thirteen years of age and over to such questions as: Have you in view any occupation for which you wish to train your son or daughter? What does he or she want to be and do? To what occupation is he or she best adapted? Has he or she received any training for this occupation? What other school are you intending to send him or her? etc., etc. Through the cooperation of Superintendent Joseph M. Gwinn and the teachers of the public schools the blank forms were distributed and collected. Thus the questions of *vocational choice* and *training* were raised simultaneously in seven thousand homes. Furthermore, during the "stay-in-school" week ninety meeting were held in school houses with the help of parents' clubs. Business and professional men addressed these meetings, the general subject being the "advantages of remaining in school." For each meeting analyses of the responses received had been prepared in concise form by the Division of Educational Research. A complete analysis of these returns will be presented by the writer in the forthcoming report of Superintendent Gwinn.

8. A COURSE OF STUDY FOR THE DELGADO SCHOOL DEDUCED FROM ALL OF THE ABOVE STUDIES

A second stage in the survey was the formulation of suggestions for a general program and course of study for the Delgado School adapted to local needs as they were found. It was found that the courses must be adapted to the needs of (1) boys fourteen years of age and older who usually will go no further than the sixth grade in the elementary schools; (2) older and more advanced boys, in smaller numbers; (3) youths and men in industry who desire either to *improve* their skill and knowledge or to *change* their occupation by means of unit evening courses and part-time courses. A plan was drawn, therefore, for the organization of the school into two departments—first the PREPARATORY TRADES DEPARTMENT intended for boys from fourteen to sixteen years of age, a department not teaching a trade, but intended to interest and hold the boy, give him a knowledge of different mechanical industries and thus lead him to the choice of a definite vocation or trade at about sixteen years. Secondly, the PRACTICAL TRADES DEPARTMENT containing these four divisions for the intensive teaching of trades in whole or in part: *Metal-working Trades Division, Building Trades Division, Wood-working Trades Division, Operative Engineering Division, Printing Trades Division.* For *Unit Evening Courses* and *Part-time Work,* a wide range of courses was indicated in detail, as based upon local needs and the experience of other cities. The forthcoming report will contain the statement of the courses in detail both for the PREPARATORY DEPARTMENT and for the PRACTICAL TRADES DEPARTMENT in its various *Divisions.* In all of the courses there is recommended a large preponderance of practical and shop work.

9. SITE, BUILDINGS AND EQUIPMENT TO SUIT THE COURSES OF STUDY

Site.—Some two score of sites were offered to the city by real estate dealers and owners. The Division of Educational Research a year ago published a statement of educational criteria which will probably guide in the final choice with a hoped-for saving of perhaps a hundred thousand dollars. At this writing the choice of site is still delayed. The criteria

cited in the report are fourteen in number, as follows:

Educators will agree that the Isaac Delgado Central Trades School for Boys, as its name indicates, doubtless will be the chief institution for training boys in New Orleans for the various trades. For the reasons that perhaps not again in a lifetime will the city be called upon to inaugurate such an establishment and that its functions and opportunities will be unique, even more than usual attention should be devoted to the right location of the school.

There are general principles that appear plain before a site has been chosen for the Isaac Delgado Central Trades School for Boys. In order that no deplorable error may be perpetrated in this matter it is desirable at the outset to tabulate consecutively these principles as suggestions preliminary to choosing a site for the Delgado Central Trades School. These principles are some fourteen in number under topics as follows:

1. *What a Trades School Is Not.*—A trade school will minister to a need *not met* by (*a*) manual-training schools; (*b*) schools for commercial training, as in stenography, typewriting, bookkeeping, commerce, etc.; (*c*) professional schools, as in engineering, medicine, law; (*d*) college preparatory and high schools.

2. *Some Features of a Trade School.*—It should prepare boys for making a livelihood as skilled workers in mechanical trades and vocations selected after the vocational survey (to be completed in June).

3. *Allowance for Population.*—Allowance should be made for increasing growth of population and therefore liberal space should be provided for additions in future.

4. *Minimum Space.*—Not less than two city blocks should be acquired for the Delgado School, *if the school be built in the midst of the city.* Dresslar goes so far as to say that not less than eight or ten acres should constitute the site of a cosmopolitan high school and fifty acres that of an agricultural high school.

Cramped space is to be avoided owing to such factors as: (1) of growth, (2) increased values, (3) recreative grounds, (4) unit shops and buildings.

5. *Unit System.*—The unit system of plant—*i. e.,* buildings and rooms specifically prepared for purposes intended should be considered and constructed separately.

6. *Ornate Decoration a Waste.*—While beauty of location is desirable, no attempt should be made for palatial edifices, material of excessive cost or for ornate decoration.

7. *Freedom from Noise.*—A site removed from noise of wagons, cars and mills, etc., is required.

8. *Freedom from Dust, Bad Air.*—A site removed from dust, smoke and foul air is equally to be emphasized.

9. *Natural Ventilation and Light.*—A site allowing most favorable exposure to breezes and sunlight is desired.

10. *Moral Surroundings.*—A site removed from immoral neighborhoods, saloons, dance halls, jails, etc., demanded.

11. *Accessibility.*—A site accessible by car lines, and if possible in reasonable walking distance from homes and public utilities, is needed.

12. *Value of Grounds.*—A site where ground is of fair price is desired.

13. *Advisability of Parks.*—It may be possible with economy to erect this one Central Trades School within the limits of our city park.

14. *Proximity of Factories Not of Chief Importance.*—Proximity to factories for part-time arrangements (for fractions of a day) is desirable. However, it is probable in New Orleans that:

(*a*) Part-time classes in some cases will operate on "alternating team" plan week by week, and in this matter of distance is not important.

(*b*) Shifting of population will change residential neighborhoods of workers and children, so that the school can not be located solely on the basis of location of homes of pupils.

(*c*) It would be better for boys to walk a moderate distance in the fresh air, going to and from school, than to be combating noise, dirt and dust all day while at work.

Buildings.—With knowledge in hand of the kind of instruction and shop practise to be given in the Delgado School, of the probable nature of the student body and of local, and of climatic conditions, then definite suggestions for the architect and a complete lay-out of buildings were easily drawn, as the next logical step of the survey. Tables were made with estimates of approximate floor spacing on each of the floors and of the cubage of the seven initial buildings, to guide in the placing of shops, laboratories, shop-talk rooms, drawing rooms, offices, lavatories, corridors, etc. The accompanying figure shows the lay-out pro-

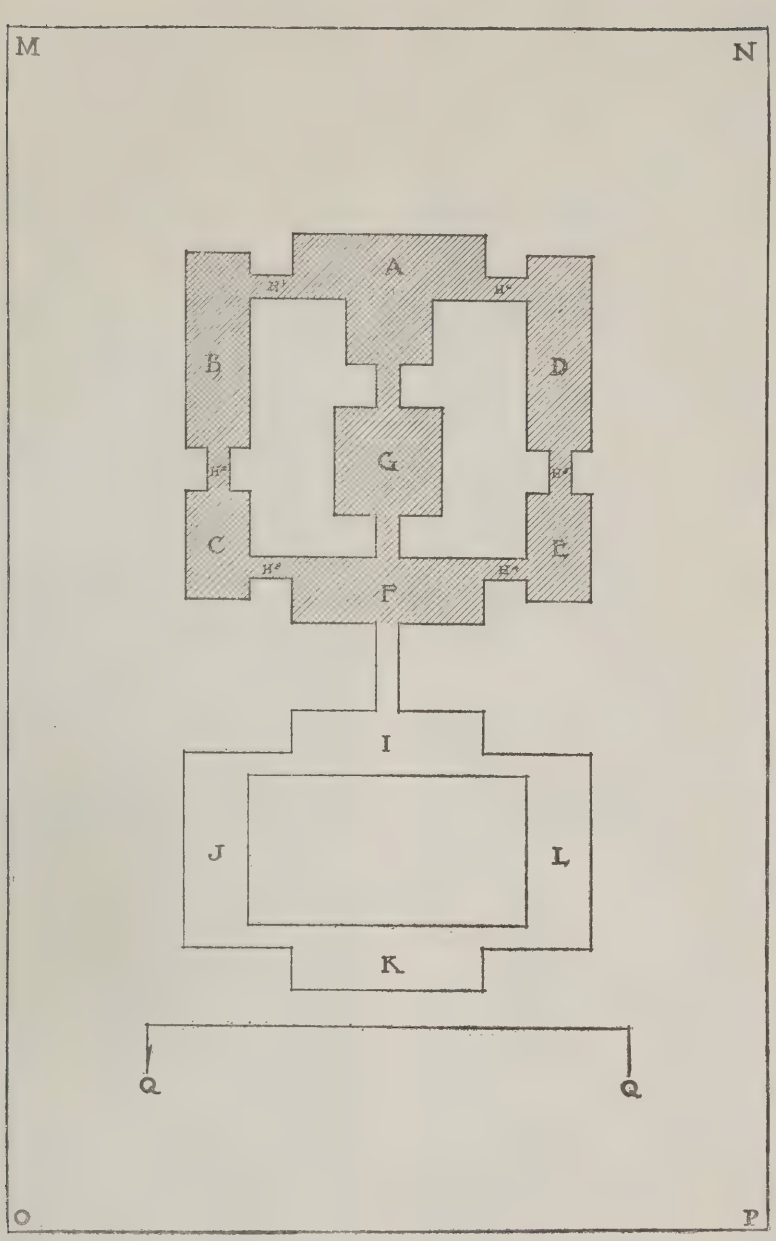

FIG. 1.

posed both for initial buildings and for future development. Here is also a memorandum indicating the nature of each of the initial buildings, which will cost approximately $482,000:

10. EXPLANATION OF DRAWING INDICATING INITIAL BUILDINGS, FUTURE DEVELOPMENT, MINIMUM AREAS FOR SITE

A. MAIN BUILDING: Two and one half stories, 144 × 48 feet, with extension 64 × 48 feet.

Contains: Printing Trades Division, Auditorium, Administrative Offices, Class, Study, Library and Drawing Rooms, Laboratories, Lavatories, Janitor's Room, etc.

B. METAL-WORKING TRADES DIVISION BUILDING: Two and one half stories 144 × 48 feet.

Contains: General Machine Shop, Automobile, Repair Shop, Forge and Blacksmith Room, Shop Talk, Stock and Drawing Rooms, Laboratories, Lavatories, etc.

C. FOUNDRY (ANNEX TO *B*): One and a half stories, 48 × 80 feet.

Contains: Foundry, Core-making Department, Office, Stock Room, etc.

D. BUILDING TRADES AND WOOD-WORKING DIVISIONS BUILDING: Two and one half stories, 144 × 48 feet.

Contains: Space for Carpentry, Bricklaying, Plumbing, Electric Wiring, Painting, etc. Shops, Shop Talk, Drawing, Stock Rooms, Laboratory, Office, Lavatory, etc.

E. MACHINE WOOD-WORKING MILL (ANNEX TO *D*): One and a half stories; 48 × 80 feet.

Contains: Planing Mill, Cabinet Shop, Saw-filing Shop, Stock Room, etc.

F. OPERATING ENGINEERING DIVISION AND POWER PLANT BUILDING: Two and one half stories, 144 × 48 feet.

Contains: Boiler Room, Engine and Dynamo Room, Laboratories, Shop Talk and Office Rooms.

G. RECREATION BUILDING: One and a half stories, 80 × 80 feet.

Contains: Gymnasium, Baths, Lunch Room, Office, etc.

H-H-H-H-H-H-H-H. ARCADES: One and a half stories, 16 × 32 feet. These arcades make possible a central control of the student body, a control similar to good types of manufacturing plants and also facilitate in bad weather the passage from building to building.

I-J-K-L: These outlines indicate unit-buildings (144 × 48 feet) and arcades (32 × 16 feet) for future development.

M-N-O-P. MINIMUM SITE: 650 × 90 feet or about six city squares. This allows for: (1) *Initial Buildings* (*A B C D E F G H*); (2) *Future Development* (*I J K L*); (3) Lawns and ground space for architectural setting, air and light; (4) Pending the construction of extensions (*I J K L*) the space to be occupied by them can be utilized as a playground.

Q Q. ARROWS: Indicate that more ground would be needed in the future if there were contemplated a Division of Scientific Agriculture, Dairying or Horticulture for City Boys.

Equipment.—Choice of equipment must depend upon (1) character of instruction given; (2) types of machines in local industrial use; (3) examples of equipment used by best types of existing trades schools elsewhere; (4) the judgment of a competent director. It is estimated that the initial equipment will cost $35,000, and it is recommended that $100,000 more be put aside permanently in order that the interest thereof shall be expended for additions from year to year, only with the advice of a trained, competent director.

11. ADMINISTRATIVE CONTROL OF THE SCHOOL

Mr. Delgado left the bequest to the City of New Orleans, specifying only that the entire amount should be expended upon the "establishment and permanent equipment of the Delgado School." There have been local advocates of turning over the control of the new trades school to a special commission rather than to the existing board of school directors—thus setting up a dual system of public education. The report presents two briefs advocating, respectively, dual and unit controls, and finally sets forth the following recommendation for a plan which it is believed will combine many of the merits of the dual system while remaining a unit system of control.

A. BOARD OF SCHOOL DIRECTORS TO CONTROL

Control and maintenance of the Delgado School should be relegated under special ordinance by the commission council to the board of school directors, with these provisions (*B, C, D, E, F, G*):

B. ASSOCIATE COUNCIL FOR DELGADO TRADES SCHOOL

The commission council of New Orleans shall elect upon nominations by the mayor, an *Associate Delgado Trades School Council* constituted of six members not members of the board of school directors, except as specified in the case of *ex-officio* members below. They shall serve without pay.

Two active manufacturers of New Orleans.

Two active wage-earners of New Orleans in mechanical trades.

Two other public spirited citizens of New Orleans chosen for ability, education and interest in industrial training.

President of the board of school directors, *ex-officio*.

The city superintendent of schools, *ex-officio.*

The director of the Delgado School, *ex-officio.*

The council is to be non-political and non-sectarian in its personnel and functions.

The members of the *Associate Council* are to be elected in rotation, for one, two and three years, respectively, by the commission council of New Orleans upon nomination by the mayor and with the advice of the leading industrial organizations of the city.

C. DUTIES OF THE ASSOCIATE COUNCIL FOR THE DELGADO SCHOOL

All of its acts subject to the ratification of the *Board of School Directors of the Parish of Orleans,* the *Associate Council* shall have regular bimonthly meetings and a regular report in writing of each meeting shall be transmitted to the *President* and *Board of School Directors.*

This *Associate Council* shall assist the *Board of School Directors* in a manner untrammeled by tradition of conventional education, but ever conserving the welfare of boys, and in sympathetic, intelligent touch with employees and employers in the mechanical trades and industries of New Orleans. It should endeavor to see to it that the distinctive function of the Delgado School shall be the practical training of boys in mechanical trades, although some of the work may include practical English, shop mathematics, mechanical drawing, sanitation and hygiene. Thus the vital and unique interests of the Delgado Central Trades School for Boys, instead of being tacked on to the multiplicity of interests of the regular board, receive at once the undivided attention of "an associate board especially interested in the development of this work."

It is expected that the *Associate Council* shall render assistance to the director of the Delgado School and *Board of School Directors* in the selection of teachers of practical trades experience and in adjusting their salaries. Especially it is desirable that the *Associate Council* should labor to bind together continually the regular school system, the best civic interests of our industries and of our wage earners and the work of the Delgado School.

D. FURTHER DUTIES OF THE ASSOCIATE COUNCIL FOR THE DELGADO SCHOOL

The *Associate Council* shall appoint *Advisory Committees* from each of the industries or trades represented in the courses of the Delgado Trades School, and these Committees may be called upon from time to time for advice or information regarding the trades and industries represented by them. At the outset there would be an advisory committee from the metal working industries, the building-trades industry, the printing trades industry, the power, light and heat plants. Every *Advisory Committee* shall consist of four representative men of good character, two employers and two wage-earners, for each committee.

E. RELATION AND COMMUNICATIONS OF THE ASSOCIATE COUNCIL WITH THE BOARD OF SCHOOL DIRECTORS

The *Associate Council* in addition to its regular meetings may assemble at the request of the *Board of School Directors,* who have the right to adopt or reject any measures proposed to it by the *Associate Council.*

Communications of the *Associate Council* will be made directly to the *Board of School Directors* and the Director of the Delgado School will act as presiding officer *ex-officio* at all meetings of the *Associate Council.*

F. DIRECTOR OF THE DELGADO TRADES SCHOOL

A *Director* of the Isaac Delgado Central Trades School should be elected by the *Board of School Directors* after thoroughgoing investigation throughout the country to find the best men, and with the advice of the *Associate Council* and upon nomination by the *Superintendent of Schools.* As often pointed out in this report, the type of leader put in this position will largely determine the success or failure of the Delgado School.

12. THE REPORT AS A WHOLE

The four-hundred-page report is now in the hands of the council. It contains more than fifty pictures of trades schools, shops, etc., illustrating the text which sets forth the practise in the best types of American schools, such as Williamson, Worcester, Ranken, Wentworth, etc. There are also twenty-four tables and charts.

The presentation of the results of a survey in such a form that the citizens and officials may understand and follow it, is an important step if practical results are to be expected. The aim of our report has been threefold:

(*a*) To develop and make plain in detail a

plan for the establishment, organization and conduct of a great school of mechanical trades for boys, for the establishment of which school three fourths of a million of dollars are now available.

(*b*) Better understanding is to be brought to industry and to education by the printed record of a survey both of our factories, building trades and also of our schools—a survey conducted with psychological insight into the needs of workers whether in school or industry.

(*c*) Basis is laid, in the wide range of facts presented in the four hundred pages of facts concerning industry and education, for a more effective vocational guidance of youth.

It is true that the authorities are under no legal obligation to adopt and execute the recommendations of this report. There is reason to believe, however, that the survey will have a powerfully helpful effect in modifying public education in New Orleans, and that the Delgado School will be a reality not disappointing our hopes. This survey is an example of a municipality setting out in good faith and economically to make a vocational survey without calling in experts, or commissions, from without. So far, there has been a strong spirit of cooperation manifested in employers, employees, commercial labor bodies, the press and officials to further this survey. There are doubtless points of weakness in the undertaking, but it is a significant thing in a year of financial and political stress that men have united to encourage this movement in behalf of youth.

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